

## CLAIMS

1. A method for distributing multicast traffic in a layer 2 network, said method comprising:

5 forming a multicast distribution tree based on a spanning tree defined within said layer 2 network; and

forwarding multicast traffic via said multicast distribution tree.

2. A method for operating a node in a layer 2 network to handle multicast traffic, said method comprising:

receiving, via a first port, a join message for a multicast distribution group;

establishing state information for said multicast distribution group if such state information has not already been established; and

15 adding said first port to a port list associated with said state information, said port list being used to select ports for forwarding received multicast traffic of said multicast distribution group.

3. The method of claim 2 further comprising:

forwarding said join message toward a root bridge of said layer 2 network.

4. The method of claim 2 wherein said join message comprises an IGMP  
Join message.

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5. The method of claim 2 further comprising:  
flooding said join message via a spanning tree of said layer 2 network.

6. The method of claim 2 further comprising:  
10 forwarding said join message via one or more ports via which an attraction point  
advertisement message was previously received.

7. A method for operating a node in a layer 2 network to handle multicast  
traffic, said method comprising:

15 receiving multicast traffic addressed to a multicast distribution group; and  
sending said multicast traffic toward a root bridge via a spanning tree of said layer  
2 network.

8. The method of claim 7 further comprising:  
forwarding said multicast traffic via one or more ports via which a join message  
was received earlier.

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9. The method of claim 7 further comprising:  
establishing state information for said multicast distribution group if such state  
information has not already been established.

10 10. A method for operating a node in a layer 2 network to handle multicast  
traffic, said method comprising:

receiving multicast traffic addressed to a multicast distribution group;  
forwarding said multicast traffic via one or more ports via which a join message  
was received earlier.

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11. The method of claim 10 further comprising:  
establishing state information for said multicast distribution group if such state  
information has not already been established.

12. A method for operating a node in a layer 2 network to handle multicast traffic, said method comprising:

5 receiving multicast traffic from a neighbor node in said layer 2 network, said multicast traffic being addressed to a multicast distribution group; and

in response to said multicast traffic, flooding an advertisement message throughout said layer 2 network via a spanning tree of said layer 2 network, said advertisement message establishing said node as an attraction point for said multicast  
10 distribution group.

13. A method for operating a node in a layer 2 network to handle multicast traffic, said method comprising:

receiving, via a first port, an advertisement message identifying an attraction point  
15 for multicast traffic addressed to a multicast distribution group; and

propagating said advertisement message further through said layer 2 network via a spanning tree of said layer 2 network.

14. The method of claim 13 further comprising:

establishing state information for said multicast distribution group if such state information has not already been established; and

5 adding said first port to a source port list of said multicast distribution group.

15. A computer-readable storage medium for use in distributing multicast traffic in a layer 2 network, said storage medium having stored thereon:

code that causes formation of a multicast distribution tree based on a spanning tree defined within said layer 2 network; and

10 code that causes forwarding of multicast traffic via said multicast distribution tree.

16. A computer-readable storage medium for use in operating a node in a layer 2 network to handle multicast traffic, said storage medium having stored thereon:

15 code that causes reception of, via a first port, a join message for a multicast distribution group;

code that causes establishment of state information for said multicast distribution group if such state information has not already been established; and

code that causes addition of said first port to a port list associated with said state information, said port list being used to select ports for forwarding received multicast traffic of said multicast distribution group.

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17. The storage medium of claim 16 having further stored thereon:  
code that causes forwarding of said join message toward a root bridge of  
said layer 2 network.

10 18. The storage medium of claim 16 wherein said join message comprises an  
IGMP Join message.

15 19. The storage medium of claim 16 having further stored thereon:  
code that causes flooding of said join message via a spanning tree of said layer 2  
network.

20. The storage medium of claim 16 having further stored thereon:  
code that causes forwarding of said join message via one or more ports via which  
an attraction point advertisement message was previously received.

21. A computer-readable storage medium for use in operating a node in a  
layer 2 network to handle multicast traffic, said storage medium having stored thereon  
5 instructions comprising:

code that causes reception of multicast traffic addressed to a multicast distribution  
group; and

code that causes sending of said multicast traffic toward a root bridge via a  
spanning tree of said layer 2 network.

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22. The storage medium of claim 21 wherein said instructions further  
comprise:

code that causes forwarding of said multicast traffic via one or more ports via  
which a join message was received earlier.

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23. The storage medium of claim 21 wherein said instructions further  
comprise:

code that causes establishment of state information for said multicast distribution  
group if such state information has not already been established.

24. A computer-readable storage medium for use in operating a node in a  
layer 2 network to handle multicast traffic, said computer-readable storage medium  
5 having instructions stored thereon, said instructions comprising:

code that causes reception of multicast traffic addressed to a multicast distribution  
group; and

code that causes forwarding of said multicast traffic via one or more ports via  
which a join message was received earlier.

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25. The storage medium of claim 24 wherein said instructions further  
comprise:

code that causes establishment of state information for said multicast distribution  
group if such state information has not already been established.

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26. A computer-readable storage medium for use in operating a node in a  
layer 2 network to handle multicast traffic, said storage medium having instruction stored  
thereon, said instructions comprising:

code that causes reception of multicast traffic from a neighbor node in said layer 2  
20 network, said multicast traffic being addressed to a multicast distribution group; and

code that causes, in response to said multicast traffic, flooding of an advertisement message throughout said layer 2 network via a spanning tree of said layer 2 network, said advertisement message establishing said node as an attraction point for said 5 multicast distribution group.

27. A computer-readable storage medium for operating a node in a layer 2 network to handle multicast traffic, said computer-readable storage medium having instructions stored thereon, said instructions comprising:

10 code that causes reception of, via a first port, an advertisement message identifying an attraction point for multicast traffic addressed to a multicast distribution group; and

code that causes propagation of said advertisement message further through said layer 2 network via a spanning tree of said layer 2 network.

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28. The storage medium of claim 27 wherein said instructions further comprise:

code that causes establishment of state information for said multicast distribution group if such state information has not already been established; and

code that causes addition of said first port to a source port list of said multicast distribution group.

5           29.     Apparatus for distributing multicast traffic in a layer 2 network, said apparatus comprising:

means for forming a multicast distribution tree based on a spanning tree defined within said layer 2 network; and

means for forwarding multicast traffic via said multicast distribution tree.

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30.     Apparatus for operating a node in a layer 2 network to handle multicast traffic, said apparatus comprising:

a processor that executes instructions; and

a memory device that stores said instructions, said instructions comprising:

15           code that causes reception of, via a first port, a join message for a multicast distribution group; and

code that causes establishment of state information for said multicast distribution group if such state information has not already been established; and

code that causes addition of said first port to a port list associated with said state information, said port list being used to select ports for forwarding received multicast traffic of said multicast distribution group.

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